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SWITCH-TYPE CONNECTOR FITTING FOR ELECTRICAL APPLIANCES

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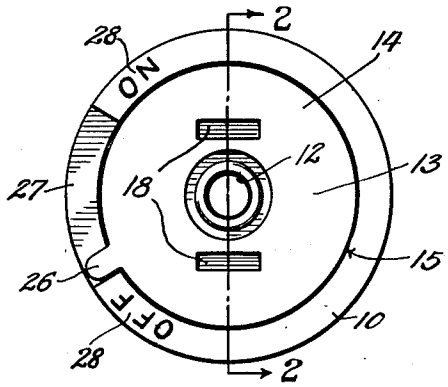


Fig. 1.

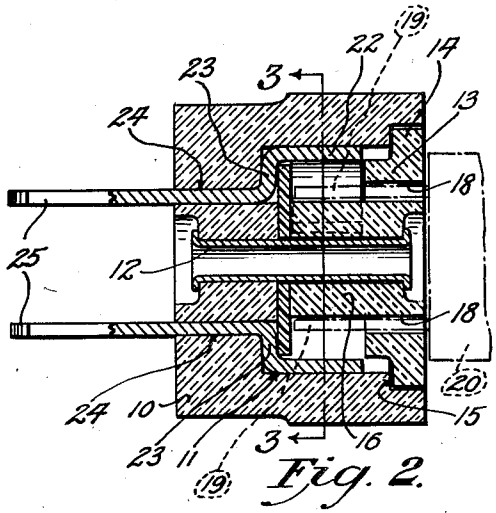


Fig. 2.

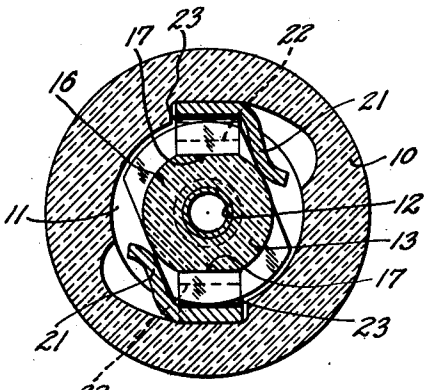


Fig. 3.

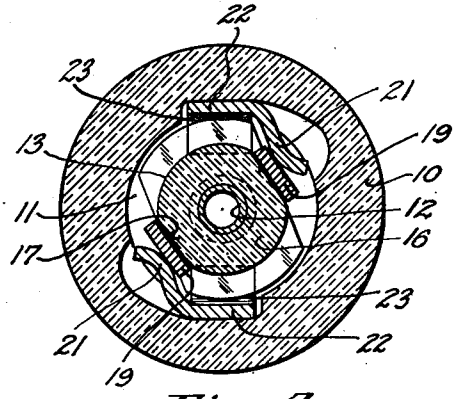


Fig. 4.

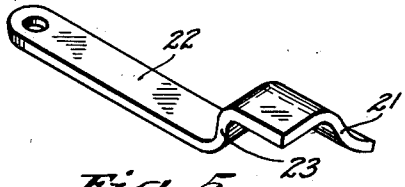


Fig. 5.

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SWITCH-TYPE CONNECTOR FITTING FOR ELECTRICAL APPLIANCES

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7 Claims. (Cl. 200—51.09)

This invention relates to improvements in connector fittings, particularly fittings of the type employed in uniting individual electrical appliances with current-supplying conductors.

An object of the invention is to provide a compact unitary fitting which may be separably joined with current-supplying outlets and the pronged plugs provided on the free ends of lead-in conductors of individual electrical appliances for governing current flow to such appliances in a simple and convenient manner and without mechanically separating the connections.

Another object of the invention is to provide a unitary connecting fitting of this character which may be readily joined, both mechanically and electrically, with standard current outlet boxes or fixtures and with the pronged plugs of appliance lead-in conductors, the fitting including a simple switch means of a readily operated character for controlling current flow from the outlet box or fixture to the plug and its associated appliance while the parts of the system remain in assembled or joined relationship.

A further object is to provide the body of such a connector at the rear thereof with spaced conductor elements adapted for separable insertion into the receiving slots of a conventional current-supplying outlet fixture, and wherein the front of the connector body includes a turnable switch disk formed with spaced parallel slots adapted for the reception of the prongs of a standard current lead-in plug, the arrangement being such that with the plug prongs inserted in the slots of the switch disk, axial turning movement of the latter causes the plug prongs to be brought into and out of circuit-completing engagement with the forward portions of the conductor elements disposed in a closed chamber provided in the connector body.

A still further object is to provide an appliance of this character in which the conductor elements of the connector body have their forward portions provided with resilient laterally directed lips, and wherein the turnable switch disk of the connector body includes a hub having opposed flattened surfaces for the reception of the prongs of a lead-in plug, the arrangement being such that when said prongs are disposed in engagement with said flattened surfaces, turning movement of the switch disk in a given direction will bring the inserted prongs into contact with the resilient lips of said conductor elements, whereby to provide efficient flow of current from said conductor elements to said prongs and at the same time to enable the conductor element to engage firmly and frictionally the associated plug prongs to prevent accidental separation of the plug from the connector body. Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts which will be exemplified in the construction hereinafter described, and of which the scope of

the invention will be indicated in the following claims.

In the accompanying drawing, in which is shown one of the various possible illustrative embodiments of this invention:

Fig. 1 is a front elevational view of a switch-type connector fitting formed in accordance with the present invention;

Fig. 2 is a vertical longitudinal sectional view taken through the same on the line 2—2 of Fig. 1;

Fig. 3 is a vertical transverse sectional view on the line 3—3 of Fig. 2;

Fig. 4 is a similar view disclosing the parts of the fitting in the positions which they occupy when the switch disk thereof is turned to bring the prongs of an associated plug into contact with the resilient lips of the current-conducting arms of the fitting;

Fig. 5 is a detail perspective view of one of said arms when removed from the fitting.

Referring more particularly to the drawing, the numeral 10 designates the cylindrical body of my improved switch-type connecting fixture. The body may be formed from any suitable dielectric material, and is provided with an axially disposed internal chamber 11, the latter opening to the front face of the body 10 and being closed at the rear thereof by the rear portion of said body. In this instance, the body includes an axially disposed and longitudinally extending tubular support 12 which is stationarily secured to the body and projects axially into the chamber 11.

Turnably mounted on the support 12 is a switch member 13, which at the forward end thereof is formed with a circular flange 14, the latter being seated in an annular recess 15 provided in the forward part of the body 10. The switch member is formed from a suitable dielectric material and at the rear thereof includes a hub 16 which, as shown in Figs. 3 and 4, is provided peripherally with diametrically opposed flattened surface 17.

In registry with these surfaces, the body of the switch member includes spaced parallel slots 18 which are adapted to receive the spaced parallel longitudinally extending prongs 19 of a standard plug 20 with which lead-in wires, not shown, of conventional electrical appliances are adapted to be connected at their outer ends. When the prongs of such a plug are inserted into the slots 18, the end portions of said prongs rest on the flattened surfaces 17 of the hub portion of said switch member, and by imparting turning movement to the switch member, which may be conveniently effected by manually applying rotative force to the plug body, the exposed portions of the prongs 19, which rest on said flattened surfaces, are adapted to be brought into firm frictional engagement with the free ends of laterally directed highly resilient lips 21 formed on the ends of a pair of conductor arms 22.

These arms, intermediately of their length, are formed to include radially directed webs 23 which engage shoulders formed by the rear wall of the chamber 11. At the inner ends of the webs 23, the arms are directed outwardly in parallel relationship through spaced slots 24 formed in the rear wall of the body 10, the conductor arms projecting beyond said body in order that the same may form prongs for insertion int the slots of conventional outlet boxes, not shown, of commercial house current-supplying systems.

In the use of the device, the outer ends 25 of the conductor arms when inserted in the standard receiving slots of an electrical outlet box detachably support the body of the fixture in its mounted, operative current-conducting position. The prongs 19 of a lead-in plug are then inserted into the slots 18 provided in the front face of the switch member 13. Following such inser-

tion, the switch member is partially rotated in a manner bringing the prongs **19** while in contact with the flattened surfaces **17** into firm frictional current-conducting contact with the stationary resilient lips **21** provided on the forward ends of the conductor arms **22**. In this manner, current will be transmitted from the outlet fixture through the conductor arms **22** and its lips **21** to the prongs **19** of the plug **20**, and thence through suitable lead-in wires to individual electrical appliances. The extent of turning movement of the switch member may be regulated by providing the same peripherally with a radially projecting stop finger **26**. This finger is disposed in an arcuate recess **27** formed in the front wall surface of the body **10**. Suitable legends which designate the required positions of the switch member in governing current flow may be applied to the front face of the body **10**, after the manner indicated at **28** in Fig. 1. The apparatus, it will be observed, is of simple, sturdy, and economical form, and may be readily associated with standard household electrical appliances without requiring splicing or wire connecting operations. The appliance may remain plugged in with its source of electrical energy at all times, and by merely turning the plug and switch member associated therewith current flow to the fixture is controlled.

Although the specific embodiment of the invention has been shown and described, it will be understood that modifications may be made therein without departing from the scope and spirit of the invention as defined in the appended claims.

We claim:

1. A plug-receiving switch fitting for electric current supplying devices, comprising: a body member of dielectric composition formed with an internal chamber having a back wall and an open front; a support on said body extending axially and longitudinally thereof; a switch member of dielectric composition turnably mounted and held against longitudinal movement on said support within the confines of said chamber, said switch member closing the open front of said chamber and including an axially disposed hub extension formed with flattened faces on diametrically opposed portions of the periphery thereof said faces forming continuations of a pair of prong-receiving slots extending longitudinally of the switch member and establishing communication between said chamber and the exterior of the fitting, said slots receiving spaced prongs of an associated line-carrying plug; and a pair of spaced longitudinally extending conductor arms positioned in and projecting rearwardly through and beyond the back wall of said body, the forward portions of said arms terminating within said chamber in laterally directed resilient lips, the latter being so arranged that when the prongs of an associated plug are positioned in said slots, rotation of said switch member in a predetermined direction will bring said prongs into pull-releasing frictional holding and current-transmitting engagement with said lips.

2. A plug-receiving switch fitting of the type defined in and by claim 1, and wherein means are provided for positively limiting the extent of turning movement of said switch member.

3. A plug-receiving switch fitting of the type defined in and by claim 1, and wherein said longitudinally extending conductor arms are formed intermediately of their lengths with radially extending shoulder-forming webs adapted for seating engagement with the rear surface of said chamber.

4. A switch-type connector fitting for electric current supplying systems, comprising: a body of dielectric composition formed inwardly thereof with an open-ended chamber; a pair of spaced parallel contact arms carried by said body and projecting exteriorly thereof at one end, said arms terminating in said chamber and being formed intermediately of the lengths thereof with radial webs having seating engagement with the back of said chamber, said arms within said chamber being formed with laterally directed resilient lips; a support formed with said body and projecting axially and longitudinally through said chamber; a switch member turnably mounted on said support, said switch member closing the open front of said chamber and being provided with spaced parallel longitudinally extending slots for the detachable reception of prongs of an associated conductor-carrying plug, rotation of said member serving to bring the inserted prongs of such a plug into pull-releasing frictional holding and current-transmitting engagement with the resilient lips of said conductor arms.

5. A fitting as defined in claim 4, and wherein an insulating member is arranged between said switch member and the prongs of a plug carried thereby and the radial webs of said conductor arms.

6. A fitting as defined in and by claim 4, and wherein the walls of said chamber are recessed to provide for flexing movement of said lips when the same are brought into current conducting engagement with plug prongs arranged on said switch member.

7. A fitting as defined in and by claim 4, and wherein means are provided for positively limiting the extent of turning movement of said switch member.

References Cited in the file of this patent

UNITED STATES PATENTS

1,669,666	Laub	May 15, 1928
2,137,569	Friedman	Nov. 22, 1938
2,215,316	Benander	Sept. 17, 1940
2,240,614	Fuchs	May 6, 1941